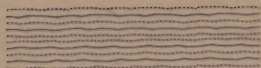
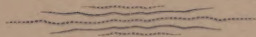


FULLER & WARREN No 7

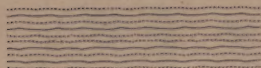
[Fuller & Warren Company] ✓



“The Ultimate



of Sanitation.”



Chicago 1888



THE river Rhine, as is well known,
Washes the city of Cologne ;
But, oh, ye gods and powers divine,
What then shall wash the river Rhine ?—*Coleridge.*

The question of the disposal of human excrement has engaged the attention of sanitarians for ages. Even as far back as the law of Moses we find especial direction regarding this matter—(Deut. xxiii, 12-14); and it is easy to see that the great law-giver appreciated the necessity of giving attention to the prevention of the spread of disease from this cause.

Mr. J. M. Keating, of Memphis, Tenn., remarks: "While other and neighboring nations were decimated by disease the Jews were almost entirely exempt, so long as they obeyed the sanitary code of the greatest of all national leaders and law-givers. Reading that code—the ultimate of which was by fire—we find that Moses condescended to the minutiae of personal as well as national sanitation, that no other people have ever profited by, even since the spread of the gospel; and the result is seen to-day in the transmission to the Jews of our own time, of physical powers of endurance and a mental strength that, taken man for man, cannot be matched by any other people."—*Sanitarian*, Feb., 1885.

The idea in early ages seems to have been to cover everything unpleasant—put it out of sight; but as far back as history reaches we find evidence of fire being employed for disposing of

moisture and odor. The idea of such disposition of excreta being sanitary, in the full sense of the word, is fallacious. First of all, the earth cannot, and does not, safely dispose of the effete and dangerous matter buried in it. This matter is only concealed, and is a constant source of danger to all the dwellers on the earth.

Prof. Bianchi explained how the dire re-appearance of the plague at Modena, in 1828, was due to an excavation made in some ground where three hundred years previously the victims of the plague had been interred. Mr. Cooper also describes how, in London, the excavations made for sewers in the site where the victims of the plague of 1665 were buried, enhanced the virulence of the cholera in 1854. Mr. Simon had previously warned the authorities of what would result from any disturbance of the spot.

Dr. Playfair declares that the fever prevalent in Rome is due to exhalations from the soil which is saturated with organic matter.—*Sanitarian*, vol. xiii, p. 444.

It will be readily understood that excrement, covered with a small quantity of earth, is not safely disposed of, and all who have given personal attention to the subject will coincide with Dr. Bell's remark that: "There is no disguising the fact that the best earth-closet is invariably associated with a vapid smell."—*Sanitarian*.

A gentleman remarked not long since, in the hearing of the writer, that he "never opened an earth-closet without being reminded of a corpse."

Closely allied to the earth-closet is the dry-air-closet. While it is an undisputed fact that twelve ounces of excrement will weigh, when dry, only about two ounces, still these two

ounces retain the noxious germs; the destruction of which is so desirable, at all times, and so necessary in case of epidemic. Geo. L. Curtis, M. D., professor of physiology, Medical College of Indiana, says: "I have taken filth from a cesspool and allowed it to dry for weeks, under the impression that drying would destroy animalculæ. On this dried mass I have poured pure water, letting it stand for twenty-four hours, when, on examination, I found as beautiful and living animalculæ as ever I saw. These dried up, dead things only slumbered and awaited the resurrecting power of moisture."—*Sanitarian*, vol. xiv, p. 140.

Then, again, the atmosphere is not always in a condition to absorb moisture. Evidently we must look farther for the solution of the problem.

Constant association with vile odors blunts our sense of smell, and, in time, we fail to perceive them. The bouquet of the tannery is not patent to the workmen. So we lose our sense of danger from excreta when it is removed from our sight, but the danger still exists, unseen and unnoticed.

The Local Board of England deputed Dr. Thorne to investigate an outbreak of typhoid at Brierly. He found that the spread of the fever was due to the poisonous dejecta of the patients. Wherever these dejecta went, poison and disease went also. From these centres it spread by excremental contamination until nearly the whole village was attacked.

The case of the recent epidemic of typhoid fever at Plymouth, Pa., was thus reported by Cyrus Edson, M. D.: "Town of ten thousand. From April 10th to May 14th, twelve hundred cases of typhoid fever broke out, with a mortality of about ten per cent." (The cause of the epidemic was distinctly traced to care-

less manipulation of excreta from one patient.) "That the epidemic was caused by the single case of typhoid fever in the house at the head of the stream is attended by evidence so abundant and strong as to be practically irresistible."—*Sanitarian*, vol. xiv, p. 530.*

Mr. J. M. Keating says: "Thirty years ago Pettenkofer, and, more recently, Koch, proved, by unquestioned tests, that the cholera germs are contained in the excrement of the diseased; that in consequence, it is transmissible from place to place without personal contact, and that, consequently, localities may be the means of spreading the contagion."—*Sanitarian*, Feb., 1885.

The fact of this ever-present danger from excreta forces itself upon the attention of every intelligent individual who regards the safety of himself and his family. More especially does it come home to those occupying or having charge of buildings where large numbers are compelled to use a small space for closet purposes; and the question presents itself pertinently: "What *can* be done to avoid the danger and dispose of the exciting cause?" In reply, we quote again from Prof. Geo. L. Curtis, M.D.: "There are six specific purifiers of filth. The first, Fire. Much of filth can be burned and so put out of sight and ability to do harm. All spores, seeds and seed-vessels, all germs of disease fall powerless before fire. It cleanses by destroying one form and establishing another form of matter." He remarks regarding the dried matter to which we have previously referred: "Had

*NOTE.—"It has long been known that one of the most fatal diseases which afflicts humanity and decimates our fellow-man is typhoid fever, which has been tersely called (from its origin), *night-soil fever*."—G. S. FRANKLIN, A.M., M.D.

that cesspool residuum been *burned* the animal substance and vegetable germs would have been destroyed. *Burning is the great filth purifier.*—*Sanitarian*, vol. xiv, p. 139.

“Fire is the best disinfectant.”—Dr. J. H. RAYMOND, Health Commissioner, N. Y.—*Sanitarian*, vol. xv, p. 5.

Mr. J. M. Keating, in an address, says: “As privies and cesspools are condemned because they saturate the soil, sewers are also to be condemned because they throw off and fill dwellings with sewer-gas and fill docks and harbors with death-dealing sewage. In a word, I propose to prove that all present plans of sewage disposal are defective because they are not final, and that cremation is the finality of sanitation.” After advocating the enactment of a law forbidding storage of excretal matter in vaults or pits, or its attempted assimilation in sewers, and compelling this and all forms of house and street-waste to be subjected “to the ordeal of fire—the only purifier,” he continues: “This is the ultimatum of sanitation. That way lies perfect sanitation—as perfect as human beings can accomplish—and in no other way can it be even approximated. Everything else has been tried, and failure has resulted. Until the germs of disease in excreta—their nidus—their means of life and perpetuity—are utterly destroyed by fire, sanitarians will find work to do; preventive medicine will still be a study, and preventive diseases continue to lead all others in the work of destruction and death; thus occasioning losses to the State greater than all others—fire, flood and tornado combined. To *fire* we must have recourse. What the Jews have done in a crude age, we must do in a better and more enlightened. Fire is the only cleansing element.”—*Sanitarian*, Feb., 1885.

It is said that the streets of Jerusalem were kept clean by every man sweeping before his own door; and if each individual house and institution would attend to the destruction of the offal produced within its precincts the discomforts of filth and stench, as well as most of the epidemic diseases, would disappear.

To quote again from Mr. Keating: "The kitchen stove is found to be a convenient furnace, and into this everything but excreta is dumped, to be entirely consumed."

At the close of a very interesting description of the great crematory established by Mr. Geo. Shaw, in London, in 1883, for the destruction of the refuse and street-waste of the city, he concludes: "The cremation of street and household-wastes is thus placed beyond question; the only thing that remains to be tried is the cremation of excreta. That secured, the whole problem of sanitation will be solved."—*Sanitarian*, Feb., 1885.*

In 1882, Dr. W. S. Ross, a prominent physician, of Madisonville, Ky., being thoroughly impressed with the necessity for some apparatus in which the excreta could be deposited and consumed without being removed, after years of thought and study, and many experiments, applied for and received letters patent of the United States, covering the points necessary to success in effectually disposing of this most offensive substance. These patents we now control, and by means of recent discoveries, and applications of various fire-proof materials, we are able to simplify and reduce the bulk, as well as the cost, of his original

*NOTE.—At the present time the large cities of our own country either have or are contemplating crematories for the purpose of consuming all descriptions of garbage and offal.

contrivance, and to produce a thoroughly practicable, odorless closet.

We have closed contracts for several closets in school-buildings and have a closet in use in the Garrison school-building, Rockford, Ill. After this closet had been used for several weeks by the workmen employed in constructing the building, and for three weeks by over one hundred children, the contents of the closet was consumed at an expense of less than ten cents, and the residuum found to be less than one quart.

The closets are entirely fire-proof. No amount of fire in them can cause more damage than the same fire in any stove standing on the ground. Does not this method of disposing of this offensive material commend itself to everyone? Is it not the easiest, most cleanly and most effective method ever offered? Certainly it disposes of it effectually, a little harmless, odorless ash being all that is left.

Mr. Keating justly claims for cremation of excreta: "First, that it will put a stop, beyond all question, to soil saturation, and sewer-gas. Second: It will put a stop to all the nuisances complained of from defective plumbing. Third: Equally applicable to hamlet, village, town and city, it will put a stop to the privy and cesspool system, and thus prevent saturation of soil. Fourth: It will solve all the problems which now vex sanitarians from house connections to the outflow."—*Sanitarian*, Feb., 1885.

We desire to call the attention of all to our apparatus, and especially those having charge of schools, seminaries, court-houses, jails, asylums, hospitals and pest-houses.

These closets are compact, taking up about the same space as water-closets. For closets built in basements, the foundation is

a bed of cement, and the walls of the pit for retaining the deposit are of brick laid in cement. Both bottom and sides are then coated with a preparation that is fire-proof and water-tight. The construction is such that in no case can the urine (or any of the contents of the closet) come in contact with any wood surface. All the surfaces exposed are such that no material can be saturated with the moisture; therefore there is at no time any perceptible odor, and when burned out, the pit is as clean as when new. The excrement is deposited on a perforated false bottom, or screen, which allows all moisture to fall to the bottom of the pit. This not only separates the solid from the liquid, but has the additional advantage of presenting three surfaces to the dessicating current of air passing through the closet. In the direct line of the current of air entering the pit, is placed a heater, for raising the temperature of the air-current, when the atmosphere is charged with moisture; as on rainy days. In the boys' closets in school-houses, or wherever closets are to be used by males only, we provide Short's patent ventilated urinal, in which, to prevent odors from rising, a constant current of air (which is afterwards used for dessicating the contents of the closet), is passed downward over the metal surface of which the stalls are constructed.

We will be pleased to correspond with any parties who may be interested, and are prepared to furnish estimates of cost of material and superintendence of construction.

Yours very respectfully,

FULLER & WARREN COMPANY,

56 LAKE ST., CHICAGO, ILL.

From "*The Morning Star*," Rockford, Ill., March 29th, '88.

"A *Star* reporter visited the new school building in the fourth ward, yesterday afternoon, and was a witness of the trial of cleaning out given the improved sanitary closets which were put in that structure. The apparatus is so arranged that a constant current of air circulates through the excrement, from the top downward. The reporter witnessed the burning out process, and can testify to its efficiency and the *absolute purity* of the closets after the fiery ordeal. The Superintendent of City Schools and the janitor of the building both declare themselves satisfied that the new closets will prove a great success."



SECTION THRU CLOSETS AND URINALS.

We beg leave to state to all parties having charge of public buildings, that while the Ross Sanitary Closet is separate and distinct from the warming and ventilation of the building in which it is situated, and is equally available in buildings warmed by furnaces, steam or stoves—or not warmed at all—we have a system of warming and ventilation for public buildings which is abreast of the times, and which has been thoroughly tested and found to be the very best system yet placed before the public. Investigate our “Common Sense” system before committing yourself to any other, no matter how highly it may have been endorsed in years gone by. Plenty of moderately warmed air and thorough ventilation can be attained without the use of an exorbitant amount of fuel.

Hon. W. S. Pattee, President State Normal Board and Clerk of Board of Education, Northfield, Minn., says regarding our “Common Sense” apparatus: “Takes no more fuel than stoves. The whole system in all its workings and results is a complete success—ventilation and all.”

Prof. B. M. Reynolds, Superintendent of City Schools, Fergus Falls, Minn., writes regarding the different systems in use in their buildings: “The Fuller & Warren Co. Furnaces take the least fuel of any. The ‘Common Sense’ Ventilator is a fine thing.”

Plans, specifications and estimates furnished on application.

FULLER & WARREN COMPANY,

56 Lake Street,

CHICAGO, ILL.

